

1-7 Precalculus Journal

In this chapter you have been learning mathematics graphically, numerically, and algebraically. An important ability to develop for any subject you study is to *verbalize* what you have learned, both orally and in writing. To gain verbal practice, you should start a journal. In it you will record topics you have studied and topics about which you are still unsure. The word *journal* comes from the same word as the French *jour*, meaning “day.” *Journey* has the same root and means “a day’s travel.” Your journal will give you a written record of your travel through mathematics.

Objective

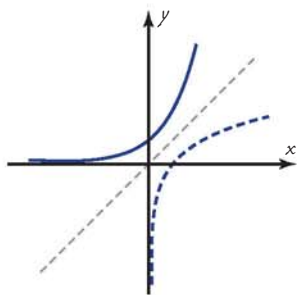
Start writing a journal in which you can record things you have learned about precalculus mathematics and questions you have concerning concepts about which you are not quite clear.

You should use a bound notebook or a spiral notebook with large index cards for pages so that your journal will hold up well under daily use. Researchers use such notebooks to record their findings in the laboratory or in the field. Each entry should start with the date and a title for the topic. A typical entry might look like this sample.

Topic: Inverse of a Function

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I've learned that you invert a function by interchanging the variables. Sometimes an inverse is a relation that is not a function. If it is a function, the inverse of $y = f(x)$ is $y = f^{-1}(x)$. At first, I thought this meant $\frac{1}{f(x)}$ but after losing 5 points on a quiz, I realized that wasn't correct. The graphs of f and f^{-1} are reflections of each other across the line $y = x$, like this:



Problem Set 1-7

1. Start a journal for recording your thoughts about precalculus mathematics. The first entry should include things such as these:
 - Sketches of graphs from real-world information
 - Familiar kinds of functions from previous courses
 - How to dilate, translate, reflect, compose, and invert the graph of a function
 - How you feel about what you are learning, such as its potential usefulness to you
 - Any difficulties or misconceptions you had but overcame
 - Any topics about which you are still unsure